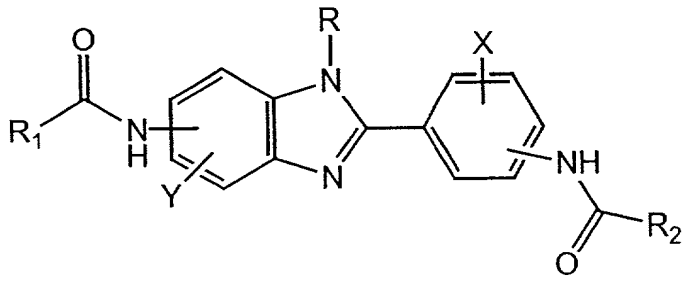
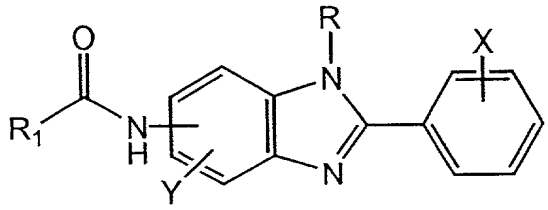
Summary of the Invention

[0012] The present invention discloses a family of related compounds for use in the treatment of a condition associated with an excess IgE level. The benzimidazole inhibitors of IgE in accordance with the present invention are represented by the generic formula:

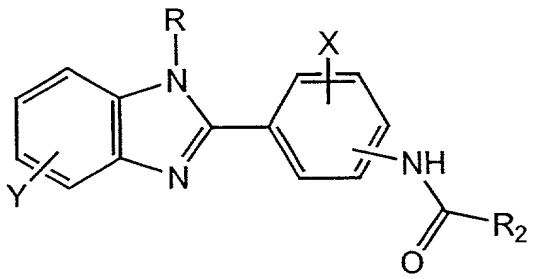
Genus A,



Genus B, and



Genus C,



[0013] wherein X and Y are independently selected from the group consisting of H, alkyl, alkoxy, aryl, substituted aryl, hydroxy, halogen, amino, alkylamino, nitro, cyano, CF_3, OCF_3. $CONH_2$, CONHR and $NHCOR_1$;

[0014] wherein R is selected from the group consisting of H, CH_3, C_2H_5, C_3H_7, C_4H_9, CH_2Ph, $CH_2C_6H_4$-F(p-), $COCH_3$, $CO_2CH_2CH_3$, aminoalkyl and dialkylaminoalkyl; and

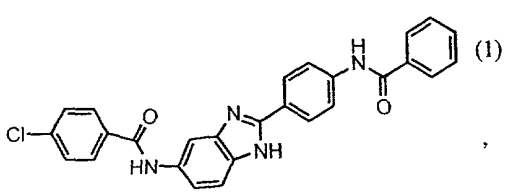
[0015] wherein R_1 and R_2 are independently selected from the group consisting of H, aryl, heteroaryl, thiophene, pyridyl, thiazolyl, isoxazolyl, oxazolyl, pyrimidinyl, substituted aryl, substituted heteroaryl, substituted thiophene, substituted pyridyl, substituted thiazolyl, substituted isoxazolyl, substituted oxazolyl, cycloaryl, cycloheteroaryl, quinolinyl, isoquinolinyl, substituted cycloaryl, substituted cycloheteroaryl, substituted quinolinyl, substituted isoqunolinyl, multi-ring cycloaryl, multi-ring cycloheteroaryl, benzyl, heteroaryl-methyl, substituted benzyl, substituted heteroaryl-methyl alkyl, dialkylaminoalkyl, cycloalkyl, cycloalkyl containing 1-3 heteroatoms, substituted cycloalkyl, substitute cycloalkyl containing 1-3 heteroatoms, multi-ring cycloalkyl, multiring cycloalkyl containing 1-3 heteroatoms, fused-ring aliphatic, fused-ring aliphatic containing 1-3 heteroatoms, cyclopropyl, substituted cyclopropyl, cyclobutyl, substituted cyclobutyl, cyclopentyl, pyrrole, piperidine, substituted cyclopentyl, cyclohexyl, substituted cyclohexyl, cycloheptyl, substituted cycloheptyl, bicycloheptyl, substituted pyrrole, substituted piperidine, bicyclooctyl, bicyclononyl, substituted bicycloalkenyl, adamantyl, substituted adamantyl and the like, wherein at least one of R_1 and R_2 are aromatic groups or heteroaromatic groups.

[0016] The substituents on said substituted aryl, substituted heteroaryl, substituted thiophene, substituted pyridyl, substituted thiazolyl, substituted isoxazolyl, substituted oxazolyl, substituted cycloaryl, substituted cycloheteroaryl, substituted quinolinyl, substituted isoqunolinyl, substituted benzyl, substituted heteroaryl-methyl alkyl, substituted cycloalkyl, substitute cycloalkyl containing 1-3 heteroatoms, substituted cyclopropyl, cyclobutyl, substituted cyclobutyl, substituted cyclopentyl, substituted cyclohexyl, cycloheptyl, substituted cycloheptyl, bicycloheptyl, substituted pyrrole, substituted piperidine, bicyclooctyl, bicyclononyl, substituted bicycloalkenyl, adamantyl, and substituted adamantyl are independently selected from the group consisting of alkyl, aryl, CF_3, CH_3, OCH_3, OH, CN, $CONH_2$, CONHR, CONR1R2, COOR and COOH.

[0017] In accordance with another aspect of the invention, there is disclosed a composition for use in the treatment of an allergic condition comprising the benzimidazole inhibitor of IgE disclosed above and at least one additional active ingredient, combined in a pharmaceutically acceptable diluent. The additional active ingredients may be selected from

the group consisting of short-acting β_2-adrenergic agonists, like terbutaline and albuterol, long-acting β_2-adrenergic agonists, like salmeterol and formoterol, antihistamines, like loratadine, azelastine and ketotifen, phosphodiesterase inhibitors, anticholinergic agents, corticosteroids, inflammatory mediator release inhibitors and leukotriene receptor antagonists.

[0018] In accordance with another aspect of the invention, there is disclosed a family of symmetric and asymmetric diacyl and monoacyl benzimidazole compounds for use in the treatment of an allergic condition comprising the following species: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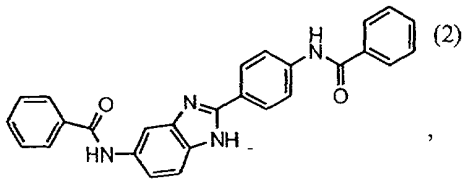
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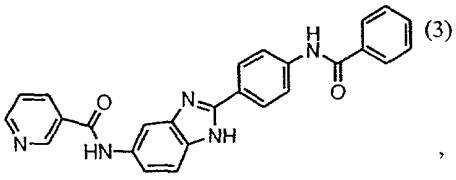
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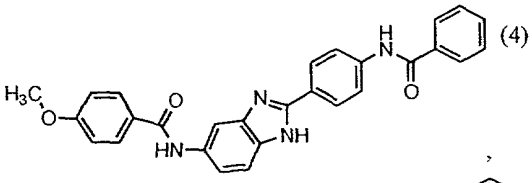
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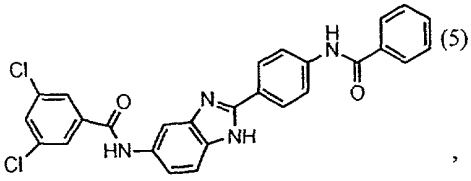
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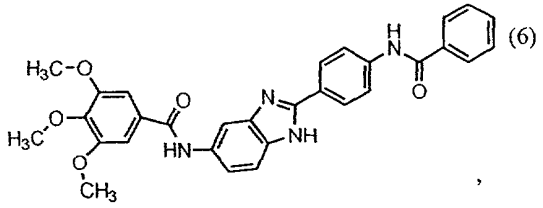
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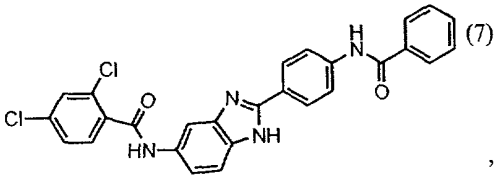
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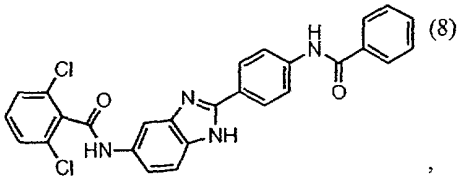
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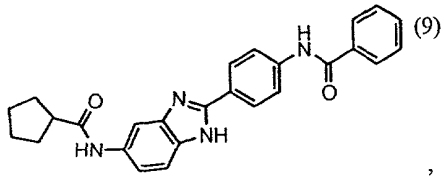
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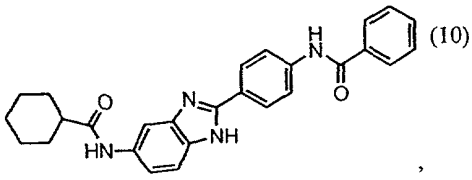
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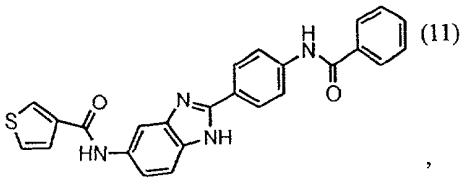
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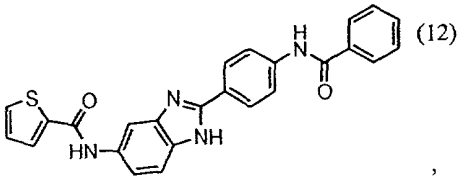
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